

Abstract of the Disclosure

5 A wireline telemetry system and method of transmitting data on multiple carrier frequencies. The system and method adjust power level and number of bits-per-carrier to optimally or near-optimally utilize the capacity of the wireline cable. Due to the nature of wireline telemetry the overall power level is restricted only by the output capability of the downhole telemetry cartridge and the input power restrictions of the uphole telemetry unit receiver. The optimal power level is determined during a training sequence and is a function of such factors as cable length, cable material, 10 cable temperature and cable geometry. The uplink and downlink transmission are executed using different modulation techniques.

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